

AMENDMENTS TO THE CLAIMS

1. (Previously presented) An automotive tubular reflector comprising:

an automotive faceted elongated reflector extending from a first surface end to a second surface end, the automotive faceted elongated reflector positioned on both sides of an elongated tubular light source, the automotive faceted elongated reflector reflecting light emanating from the elongated tubular light source towards a rectangular aperture of the automotive tubular reflector; and

an automotive elongated semi-circular reflector having a smooth reflective surface, the automotive elongated semi-circular reflector connected to the first surface end of the automotive faceted elongated reflector, wherein the elongated tubular light source is freely positioned within the automotive elongated semi-circular reflector so that light emanating from the elongated tubular light source is reflected off of the smooth reflective surface of the automotive elongated semi-circular reflector and re-directed to pass through the elongated tubular light source towards the rectangular aperture of the automotive tubular reflector.

2. (Previously presented) The invention of claim 1 wherein the automotive faceted elongated reflector is a semi-elliptical reflector.

3. (Previously presented) The invention of claim 1 further comprising a lens means coupled to the automotive faceted elongated reflector, the lens means processing the reflected light.

4. (Previously presented) The invention of claim 1 further comprising several reflective surfaces disposed on the automotive faceted elongated reflector.

5. (Previously presented) The invention of claim 1 further comprising a reflective finish disposed on the automotive elongated semi-circular reflector.

6. (Previously presented) The invention of claim 5 wherein the reflective finish disposed on the automotive elongated semi-circular reflector is essentially the same as a reflective finish disposed on the automotive faceted elongated reflector.

7. (Previously presented) An automotive elongated reflector comprising:
an automotive half-circle reflector having an elongated tubular light source freely positioned within the automotive half-circle reflector, the automotive half-circle reflector reflecting light emanating from the elongated tubular light source; and

a multi-faceted reflector connected to the automotive half-circle reflector, the multi-faceted reflector having at least two facets positioned at angles to one another so that light emanating from the elongated tubular light source is reflected away from the elongated tubular light source and projected into an automotive signal lighting beam pattern.

8. (Previously presented) The invention of claim 7 further comprising a lens means coupled to the multi-faceted reflector, the lens means receives and processes the reflected light.

9. (Cancelled)

10. (Previously presented) The invention of claim 8 wherein a securing means for securing the multi-faceted reflector to the lens means is provided on the multi-faceted reflector.

11. (Previously presented) The invention of claim 7 wherein the automotive elongated reflector is a vehicle stop lamp.

FL 12. (Cancelled)

13. (Cancelled)

14. (Previously presented) An automotive elongated lighting device comprising:
a housing portion having an interior reflecting surface that comprises a plurality of facets;
a first reflective finish disposed on the interior reflecting surface;
an automotive elongated semi-circular reflector portion connected to the interior reflecting surface;

an elongated tubular light source freely positioned in the automotive elongated semi-circular reflector portion, the automotive elongated semi-circular reflector portion formed around the elongated tubular light source so that light emanating from the elongated tubular light source is reflected off of the automotive elongated semi-circular reflector portion and re-directed to pass through the elongated tubular light source;

a second reflective finish disposed on the automotive elongated semi-circular reflector portion; and

a lens portion coupled to the housing portion;

such that the first and second reflective finish reflects light from said elongated tubular light source towards the lens portion, and wherein each facet location and angle are chosen to create a light distribution pattern that complies with automotive signal lighting requirements.

15. (Cancelled)

16. (Cancelled)

17. (Original) The invention of claim 15 wherein the plurality of facets are arranged in a step-wise orientation.

18. (Original) The invention of claim 15 wherein each facet of the plurality of facets has a similar reflective finish.

19. (Cancelled)

20. (Previously presented) The invention of claim 14 wherein the automotive elongated semi-circular reflector portion is semi-elliptical.

21. (Currently amended) The invention of claim 7, wherein locations of the at least two facets are set according to points x_i and y_i , and wherein x_i and y_i are determined according to:

$$x_i = \left(y_{i-1} - \frac{x_{i-1}}{\tan(\alpha_1 + (i-1)\beta)} \right) \frac{\sin(\alpha_1 + (i-1)\beta) \sin(i\varphi_1)}{\sin(\alpha_{i+1})} \quad \text{and} \quad y_i = \frac{x_i}{\tan(i\varphi_1)}$$

where $\alpha_1 = \frac{\pi/2 + \varphi}{2}$, $\beta = \frac{\varphi}{2}$, and φ are chosen based on a desired length of the at least two facets, and wherein α and β are outer and inner light distribution angles, and wherein i defines the number of facets where an ith facet is defined by points x_i and y_i .

FL 22. (Previously presented) The invention of claim 14, wherein each facet location and angle are chosen to create the light distribution pattern that complies with automotive signal lighting requirements by setting desired outer and inner light distribution angles.

23. (Currently amended) The invention of claim 22, wherein each facet location and angle are set according to points x_i and y_i , and wherein x_i and y_i are determined according to:

$$x_i = \left(y_{i-1} - \frac{x_{i-1}}{\tan(\alpha_1 + (i-1)\beta)} \right) \frac{\sin(\alpha_1 + (i-1)\beta) \sin(i\varphi_1)}{\sin(\alpha_{i+1})} \quad \text{and} \quad y_i = \frac{x_i}{\tan(i\varphi_1)}$$

where $\alpha_1 = \frac{\pi/2 + \varphi}{2}$, $\beta = \frac{\varphi}{2}$, and φ are chosen based on a desired length of the plurality of facets, and wherein α and β are the outer and the inner light distribution angles, and wherein i defines the number of facets where an ith facet is defined by points x_i and y_i .

24. (Previously presented) The invention of claim 14, wherein the light distribution pattern that complies with automotive signal lighting requirements complies with the Federal Motor Vehicle Safety Standards 571.108 ("FMVSS 108").